MONROE COUNTY DEPARTMENT OF PUBLIC HEALTH
111 Westfall Road-P.O. Box 92832-Rochester, New York 14692
Room 938

SOIL INVESTIGATION AND PERCOLATION

Soil investigation-Groundwater characteristics shall be determined and shall include the depth to the seasonal high groundwater level and the type of water table – perched, apparent or artesian.

If a subsurface treatment unit is planned, at least four feet of useable soil shall be available over impermeable deposits (i.e., clay or bedrock). The bottom of the proposed absorption area shall be at least two feet above the highest groundwater level. Where systems are to be installed above drinking water aquifers, a separation of four feet to bedrock is required. At least one test hole a minimum of six feet deep shall be dug within the proposed absorption area to insure that uniform soil and site conditions prevail.

If observations reveal differing soil profiles, additional holes shall be dug and tested. These additional holes shall be spaced to indicate whether there is a sufficient area of useable soil to install the system. In most cases, treatment systems shall be designed to reflect the most severe conditions encountered. The exception occurs when the highest perc rate conflicts with the other perc test results and the lower results are consistent with the deep hole evaluation.

If the percolation tests results are inconsistent with field determined soil conditions; additional percolation tests must be conducted. The most restrictive tests shall be used for system design unless the Monroe County Department of Public Health formally grants permission for the use of the less-restrictive tests.

Test holes for seepage pits shall extend to at least mid-depth and full depth of the proposed pit bottom. At least three feel of useable soil shall exist between the pit bottom and rock or other impermeable soil layer and the highest groundwater level. This shall be confirmed by extending at least one deep hole three feet below the deepest proposed pit.

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Soil Percolation Test (Figure 1)- Once preliminary investigation is completed, the design professional will be required to stake out the area that is proposed for the absorption area. It will then be the responsibility of the design professional to make available for testing three percolation holes throughout the proposed absorption area, presoak each hole and prepare for Health Department staff to witness three percolation tests as well as complete a deep hole investigation. Each perc hole shall be **twelve inches in diameter** and deep enough to reach the bottom of trenches in the absorption area. Preliminary holes can be used for formal testing at the discretion of the design professional.

It is important to realize that the method of presoaking is dependent upon the type of soil encountered and the time of year during which the percolation tests are being run. Completely filling the perc holes with water the day before the percolation test may be sufficient in many cases. Testing that is performed during a dry spell may document unrealistically rapid percolation rates. Prudent testing might involve repeated filling of the percolation hole(s) over a period of several days. The need to so modify the test method will be determined by the designer and subject to review by our field staff.

The perc test shall consist of filling the hole with water to a depth of six inches and observing the time required for the water to drop one inch (from six to five inches). The test shall be repeated at least two more times until the time for the one-inch drop for two successive tests gives approximately equal results (defined as within 10% of each other). The last test result will then be taken to represent the stabilized rate of percolation and be the basis for design of the leach or absorption area required for the subsurface sewage disposal system.

The use of additives in the water or soil is strictly prohibited. The replacement of soil with a more permeable material or mechanical loosening of soil for the purpose of enhancing the percolation rate is similarly prohibited.

The stakes that were placed to locate the absorption area are to be left in place so that the area can be reserved for system installation. In addition, each area is to be provided with a permanent marker (filling one of the percolation holes with concrete to grade would be one acceptable method of establishing horizontal and vertical control) for future identification. Plans submitted to this Office for review shall provide a detailed description of the method chosen to provide said control. Any change in the location of the system or alteration of existing grade by cutting or filling before system installation will require notification of this Office prior to start of construction. Staff will then be in a position to determine subsequent action, including additional testing and/or system redesign.

On multiple lot subdivisions where, due to manpower constraints, Health Department staff are not able to witness percolation tests on all lots, the procedure for preparing for our presence will remain as noted above. The location of the area reserved for leach field installation for each lot will be appropriately staked out. Health Department staff will then choose the lots where we will witness percolation tests. All other percolation tests conducted by the design professional will be certified to the Department as accurate in terms of test procedure and data generated.

For seepage pits, one test shall be conducted at the bottom depth and the other at half the pit depth. If different soil layers are encountered when digging the test pit, a percolation test shall be performed in each layer with the design percolation rate being the highest test result.

A percolation test is only an indicator of soil permeability and must be consistent with the soil classification of the site as determined from the test holes.

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The design professional should contact this Office at 753-5060 to schedule Health Department witnessing of this field-testing. Any questions concerning field testing or individual sewage disposal systems can be directed to this number or 753-5470.

Fee schedule: Field testing- $75 per lot.